



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,185	07/29/2003	Hidefumi Yoshizoe	NEC 219824	7204
27667	7590	09/13/2005		
HAYES, SOLOWAY P.C. 3450 E. SUNRISE DRIVE, SUITE 140 TUCSON, AZ 85718			EXAMINER SCHECHTER, ANDREW M	
			ART UNIT 2871	PAPER NUMBER

DATE MAILED: 09/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/629,185	YOSHIZOE, HIDEFUMI
	Examiner Andrew Schechter	Art Unit 2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 11 July 2005.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1,3,4,6 and 9-12 is/are rejected.
- 7) Claim(s) 2,5,7 and 8 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 28 January 2005 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 15 June 2005 has been entered.

Response to Arguments

2. Applicant's arguments filed 15 June 2005 have been fully considered but they are not persuasive.

The applicant [p. 6] takes issue with the examiner's statement that each of the references "may or may not" disclose the air forming members formed with the auxiliary member, and argues that the examiner has employed hindsight reasoning. This is not persuasive. In each reference, the two elements are shown in the same layer, and appear to have been made of the same material at the same time, in a single step of patterning a layer initially formed to cover the entire substrate. This is the conventional manner of making such features in the art, and one of ordinary skill in the art would certainly tend to assume that they were formed together. However, the examiner recognizes that there is no explicit statement in the references that they are formed

together, so it appears to the examiner that the references fall just short of anticipation. In each case, the alternatives are to form them together using a single production step, or to perform an additional production step to make the elements separately. While it is possible to do the latter, it would certainly have been obvious to one of ordinary skill in the art at the time of the invention to do the former, as argued in the rejections.

The applicant states [p. 6-7] with reference to Furushima that it is not understood how the examiner proposes to connect the dummy seal with each of the six seals to form an air forming member as required by claim 11. The examiner does not propose to do so. The confusion appears to be based on a misreading of the rejection and how the claim elements are matched to the reference elements. Furushima discloses a dummy seal [4] which is the "auxiliary member" in claim 11, and six seals [3] which are the "seal member" in claim 11. There is no requirement in claim 11 that the seal member and the auxiliary member (dummy seal) are connected with each other, much less that they are connected to form an air outlet forming member. Rather, the air outlet forming member [the vertical extensions of 3 at the top of each region 8] are connected to the injection inlet [the opening in 3] as required by the claim; claim 11 requires the air outlet forming members to be formed with the auxiliary member, as discussed in the above paragraph, but not that they be connected. The situation with the Lee and Sakai references is analogous. While the structures in the references may be different than in the application, they do meet the present claim language. The examiner calls the applicant's attention to the details of the rejections, in particular the identification between the elements in the references and in the claim limitations.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Furushima et al., U.S. Patent No. 5,410,423.

Furushima discloses a method of manufacturing a liquid crystal display panel, the method comprising: preparing a first substrate [1] and a second substrate [2]; forming a seal member [3], an auxiliary member [4], and air outlet forming members [vertical extensions of 3 at the top of each region 8] on one of said substrates, wherein said seal member formed an internal space [8] and has an injection inlet [the opening in 3] for liquid crystal injection, said auxiliary member is arrayed around said seal member, and said air outlet forming member is connected to said injection inlet and extended toward a peripheral end of said panel; attaching said first substrate to said second substrate with said seal member and said auxiliary member to form said panel [see Fig. 2]; positioning a cut line [7] between said seal member and said auxiliary member; cutting said panel along said cut line; and injecting liquid crystal through said injection inlet [col. 3, lines 25-32].

Furushima may or may not disclose the amended limitation that the air outlet forming members are formed with said auxiliary member. It would have been obvious

to one of ordinary skill in the art at the time of the invention to make these two features at the same time, motivated by the efficiency of making them using a single production step. Claim 11 is therefore unpatentable.

5. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Sakai et al.*, U.S. Patent No. 6,222,603.

Sakai discloses [see Figs. 2-4] a method of manufacturing a liquid crystal display panel, the method comprising: preparing a first substrate [2a] and a second substrate [2b]; forming a seal member [6], an auxiliary member [11], and air outlet forming members [horizontal extensions of the main part of 6] on one of said substrates, wherein said seal member formed an internal space [7] and has an injection inlet [between the air outlet forming members] for liquid crystal injection, said auxiliary member is arrayed around said seal member, and said air outlet forming member is connected to said injection inlet and extended toward a peripheral end of said panel; attaching said first substrate to said second substrate with said seal member and said auxiliary member to form said panel [see Fig. 2]; positioning a cut line between said seal member and said auxiliary member and cutting said panel along said cut line [col. 5, lines 11-12, 35-39]; and injecting liquid crystal through said injection inlet [col. 5, lines 12-21].

Sakai may or may not disclose the amended limitation that the air outlet forming members are formed with said auxiliary member. It would have been obvious to one of ordinary skill in the art at the time of the invention to make these two features at the

same time, motivated by the efficiency of making them using a single production step.

Claim 11 is therefore unpatentable.

An air outlet auxiliary member [the separate vertical section of 6 on the right side] is further formed on one of said substrates within said air outlet forming members.

Claim 12 is therefore unpatentable.

6. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Lee et al.*, US 2001/0022645.

Lee discloses [see Fig. 9, for instance] a method of manufacturing a liquid crystal display panel, the method comprising: preparing a first substrate [1] and a second substrate [201]; forming a seal member [210], an auxiliary member [220, etc.], and air outlet forming members [vertical extensions of 210 at bottom of Fig. 9B] on one of said substrates, wherein said seal member formed an internal space [inside 210] and has an injection inlet [between the air outlet forming members] for liquid crystal injection, said auxiliary member is arrayed around said seal member, and said air outlet forming member is connected to said injection inlet and extended toward a peripheral end of said panel; attaching said first substrate to said second substrate with said seal member and said auxiliary member to form said panel [see Fig. 9A]; positioning a cut line between said seal member and said auxiliary member, cutting said panel along said cut line, and injecting liquid crystal through said injection inlet [paragraphs 0013, 0014, 0056, etc.].

Lee may or may not disclose the amended limitation that the air outlet forming members are formed with said auxiliary member. It would have been obvious to one of

ordinary skill in the art at the time of the invention to make these two features at the same time, motivated by the efficiency of making them using a single production step. Claim 11 is therefore unpatentable.

An air outlet auxiliary member [upside down “u” shapes in Fig. 9B] is further formed on one of said substrates within said air outlet forming members. Claim 12 is therefore unpatentable.

7. Claims 1, 3, 4, 6, and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Lee et al.*, US 2001/0022645 as applied to claims 11 and 12 above, in view of *Ishiwata et al.*, U.S. Patent No. 5,858,482.

Regarding claims 11 and 12, it might be argued that *Lee* does not explicitly show the position of a cut line in Fig. 9B, so it does not disclose the cut line being between the seal member and the auxiliary member. The examiner does not agree, since the auxiliary member is located in the unneeded “edges of the attached substrates” which are “cut away” [paragraph 0056]. However, to forestall this argument, the examiner notes that *Ishiwata* discloses [see Fig. 3] a cut line “L” disposed near the end of the equivalent air outlet forming members (which would be between the seal member and the auxiliary member in *Lee*), and it would have been obvious to one of ordinary skill in the art at the time of the invention to do so in the method of *Lee*, motivated by the desire “to expose the injection port at the cut edges of the substrates” [col. 8, lines 1-6], thus making an accessible injection port, and to make the non-display area of the LCD as small as possible. Claims 11 and 12 are therefore unpatentable.

Considering the additional limitations of claim 1 over those of claim 12, claim 1 recites cutting said panel along said scribe line to traverse said air outlet forming members. Since *Lee* is silent on the exact location of its scribe line, as discussed in the above paragraph, it does not disclose this limitation of claim 1.

Ishiwata discloses [see Fig. 3, for instance] cutting the panel along a cut line (or scribe line) to traverse the air outlet forming members [the horizontal sections of 12 to the right]. (The examiner understands the term “traverse” to include crossing at the edge of the members as shown in Fig. 3.) As discussed above, it would have been obvious to one of ordinary skill in the art at the time of the invention to cut the panel so in the method of *Lee*, motivated by the desire “to expose the injection port at the cut edges of the substrates” [col. 8, lines 1-6], thus making an accessible injection port, and to make the non-display area of the LCD as small as possible. Claim 1 is therefore unpatentable.

The air outlet forming member is aligned parallel to said air outlet auxiliary member in order to maintain a constant gap therebetween, so claim 3 is also unpatentable. The air outlet auxiliary member and the air outlet forming member extend toward the peripheral end of the panel, so claim 4 is also unpatentable. There are a plurality of injection inlets and air outlets, so claim 9 is also unpatentable. The method is used to make a liquid crystal display panel, so claim 10 is also unpatentable.

Lee discloses [see claims 12 and 13, for instance] that the seal member, the auxiliary member, the air outlet auxiliary member, and the air outlet forming member are all formed using a dispenser-print method. It does not explicitly disclose that they are all

simultaneously formed and made of the same material. It would have been obvious to one of ordinary skill in the art at the time of the invention to form them all simultaneously of the same material, motivated by the desire to avoid the unnecessary additional manufacturing steps involved in separately forming these members. Claim 6 is therefore unpatentable.

Allowable Subject Matter

8. Claims 2, 5, 7, and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
9. The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not disclose the method of claim 2, in particular the additional limitation that the air outlet auxiliary member is positioned between the cut line and the peripheral end of the panel in order not to be cut when the panel is cut off. Claim 2 would therefore be allowed if rewritten appropriately.

The prior art does not disclose the method of claim 5, in particular the additional limitation that the auxiliary member, the air outlet auxiliary member and the air outlet forming member formed at an external domain of the cut line, are all continuously formed as dashed lines. Claim 5 would therefore be allowed if rewritten appropriately.

The prior art does not disclose the method of claim 7, in particular the additional limitation that a gap between the air outlet auxiliary member and the air outlet forming

member is 2 mm or more but not more than 7 mm. Claim 7 would therefore be allowed if rewritten appropriately.

The prior art does not disclose the method of claim 8, in particular the additional limitation that a gap between the peripheral end of the panel and the distal ends of both the air outlet auxiliary member and the air outlet forming member is not more than 3 mm. Claim 8 would therefore be allowed if rewritten appropriately.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Schechter whose telephone number is (571) 272-2302. The examiner can normally be reached on Monday - Friday, 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Andrew Schechter
Andrew Schechter
Primary Examiner
Technology Center 2800
9 September 2005